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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,820	10/06/2003	Cyrus B. Meher-Homji	51005/RDS/M60	3403
23363	7590	06/16/2006	EXAMINER	
CHRISTIE, PARKER & HALE, LLP			VERDIER, CHRISTOPHER M	
PO BOX 7068			ART UNIT	
PASADENA, CA 91109-7068			PAPER NUMBER	
			3745	

DATE MAILED: 06/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

88

Office Action Summary	Application No.	Applicant(s)	
	10/679,820	MEHER-HOMJI ET AL.	
	Examiner	Art Unit	
	Christopher Verdier	3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11-7-05, 3-27-06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-8, 10-12, 14-20, 22-35 and 37-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4, 6, 8, 10-12, 14-20, 22-27, 29, 30, 35 and 37-39 is/are allowed.
- 6) ☒ Claim(s) 3, 7, 28 and 31-34 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 3745

Applicant's amendments dated November 7, 2005 and March 27, 2006 have been carefully considered but are non-persuasive. Claims 3-8, 10-12, 14-20, 22-35, and 37-39 are pending. Applicant's cooperation in amending the application is appreciated. With regard to Applicant's argument that the features of claims 5-8 and 18-20 are shown in amended figure 3, the examiner agrees. The examiner also agrees with Applicant's argument that the porous surface of the hollow cone, the guide vanes with the porous surfaces, only the downstream portion of the vane being porous, and only the downstream portion of the compressor inlet cone being porous, need not be shown because the porosity is a property of a metal that need not be separately illustrated. The objection to the drawings as not showing the porous features is withdrawn. However, claims 12, 24, 26, 29, and 30 still recite the perforated surface on the cone, which needs to be illustrated. With regard to the objection to the drawings pertaining to claims 27, 37, and 39, Applicant's amendment to figure 7 showing an arrow indicating suction along the length of the vane is acceptable.

With regard to Applicant's argument that the objection to the specification on page 4, line 32, where -- a -- should be inserted after "of", should be withdrawn, because this would render the sentence grammatically incorrect, the examiner disagrees. The sentence as written is grammatically incorrect and should be corrected by inserting -- a -- after "of".

Applicant has argued concerning the objection to the specification as failing to provide antecedent basis for claims 11, 23, 30, 32, and 34, that the specification provides antecedent basis at page 9, lines 14 and 15, page 9, line 16, page 6, lines 12-21, and page 8, lines 19-21.

Art Unit: 3745

This argument is not persuasive, because these portions of the specification do not provide antecedent basis for the underlined limitations: Claims 11 and 23, which recite that the drain comprises a dam around at least a portion of the cone, has no antecedent basis in the specification. Claim 30, which recites only a downstream portion of the inlet cone is porous or perforated, has no antecedent basis in the specification. Claim 32, which recites shielding at least a portion of the floor of the duct with a perforated sheet or screen, has no antecedent basis in the specification. Claim 34, which recites sucking water from along at least a portion of the length of the dam, has no antecedent basis in the specification. Applicant's argument that the objection to claim 33 should be withdrawn because whether or not -- said step of -- is included in the claim is entirely within the discretion of the applicant has been considered. If applicant does not desire to insert the step into the claim, this is acceptable. However, -- said -- should be inserted after "wherein".

Applicant's argument with regard to claims 3 and 5 that the sieve 30 in Graemiger 1,400,813 is not a dam (page 19, second paragraph of Applicant's Remarks dated November 7, 2005), that baffle plate 29 does not direct water flowing on an air inlet duct toward the drain (page 19, third paragraph of Applicant's Remarks dated November 7, 2005), and that baffle plate 29 is not shown as diagonal (page 20, first paragraph of Applicant's Remarks dated November 7, 2005) are persuasive. The rejections of claims 3 and 5 under 35 USC 103(a) as being unpatentable over Graemiger 1,400,813 are withdrawn.

Art Unit: 3745

With regard to Applicant's argument that in Graemiger 1,400,813 there is no air flowing through the compressor inlet duct, but only water vapor and possibly liquid water (pertaining to claim 31), the examiner disagrees. Inlet 1 of Graemiger is clearly an air inlet duct to the compressor and contains air for flowing through the centrifugal compressor. The vapor admitted to the compressor also contains air. With regard to Applicant's argument that in Graemiger there is no perforated sheet or screen shielding the floor of the inlet duct (pertaining to claim 32), and that the only thing resembling such a screen is element 30, which is in chamber 23, which is after the first stage and is not an inlet duct, and that there is no suggestion that the screen should be placed anywhere else, the examiner disagrees. Element 30 of Graemiger is located adjacent to drain 22 and provides the function of preventing too great a rate of evaporation of water. One of ordinary skill in the art would have recognized the desirability of providing these benefits in the air inlet duct adjacent to the drain near 26, because drain 26 functions similar to drain 22. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to locate the screen 30 of Graemiger in the air inlet duct 1, for the purpose of preventing too great a rate of evaporation of water. Applicant's argument that baffle plate 29 in Graemiger is not located near drain 26, and is for preventing water on entering the space 19 through channel 18 from squirting too high and getting admixed to the steam in the shape of drops of water, and that claim 31, from which claim 33 depends, recites that the water is flowing along a wall of the duct in the general direction of air flow (Applicant's Remarks dated March 27, 2006, page 2, paragraphs 4-5 and the first paragraph on page 3) is persuasive. The rejection of claim 33 under 35 USC 103(a) as being unpatentable over Graemiger is withdrawn.

Art Unit: 3745

Applicant's argument that in Charron 6,273,674, the alleged air inlet duct 36 is an outlet from the compressor stage instead of an air inlet (pertaining to claim 3), is not persuasive.

Element 36 of Charron functions as an air inlet duct for the downstream compressor stage that follows stage 35, since it is an air inlet duct to the downstream compressor stage. Applicant's argument that element 39 of Charron is not a dam, but rather a channel, is not persuasive.

Element 39 of Charron has a concave collecting region, and clearly functions as a collecting dam for directing water flowing toward the drain 42j.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the hollow cone with a perforated surface on the cone (claims 12, 24, 26, and 29), and only a downstream portion of the inlet cone being perforated (claim 30) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the

Art Unit: 3745

drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: Appropriate correction is required.

On page 4, line 32, -- a -- should be inserted after "of".

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Claims 11 and 23, which recite that the drain comprises a dam around at least a portion of the cone, has no antecedent basis in the specification for the underlined limitation.

Claim 30, which recites only a downstream portion of the inlet cone is porous or perforated, has no antecedent basis in the specification for the underlined limitation.

Claim 32, which recites shielding at least a portion of the floor of the duct with a perforated sheet or screen, has no antecedent basis in the specification for the underlined limitation.

Art Unit: 3745

Claim 34, which recites sucking water from along at least a portion of the length of the dam, has no antecedent basis in the specification for the underlined limitation.

Claim Objections

Claims 33-34 are objected to because of the following informalities: Appropriate correction is required.

In claim 33, line 1, -- said -- should be inserted after “wherein”.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 28 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 28 has been amended to recite that the only a downstream portion of at least one of such guide vanes is porous or perforated. There is no antecedent basis for the underlined limitation in the original specification or claims and this added underlined limitation encompasses new matter.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

Art Unit: 3745

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 7, line 5 recites “the dam”. There is insufficient antecedent basis in the claim for this limitation.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 3, 31, and 33-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Charron 6,273,674. Note the apparatus for removing water from compressor inlet air comprising a compressor 1, an air inlet duct 36 to the compressor, a drain 42j connecting to the inside of the duct, a dam 39 extending into air flow through the duct for directing water flowing on an air inlet duct wall toward the drain, and means 8 for lowering pressure in the drain to a pressure less than air pressure in the duct adjacent to the drain, with the drain located in an approximately horizontal portion of the air duct. Element 36 of Charron functions as an air inlet duct for the downstream compressor stage that follows stage 35, since it is an air inlet duct to the downstream compressor stage. Also disclosed is a method of removing water from a compressor inlet air duct 36 comprising diverting water (by dam 39) flowing along a wall 40 in the general

Art Unit: 3745

direction of air flow inside the duct to the drain, and sucking water from the drain with a pressure less than air pressure in the duct adjacent to the drain. The step of diverting also comprises placing the dam 39 across a portion of the air flow through the duct and adjacent to the drain, and sucking water from the length of the dam. The recitation in claim 3, lines 8-9 of “means for lowering pressure in the drain to a pressure less than air pressure in the duct adjacent to the drain” invokes 35 USC 112, sixth paragraph. No explicit definition in Applicants’ specification excludes the means 8 of Charron as an equivalent, and means 8 disclosed by Charron performs the identical function in substantially the same way and produces substantially the same result, and is therefore an equivalent to Applicants’ disclosed “means for lowering pressure in the drain to a pressure less than air pressure in the duct adjacent to the drain”.

Claim 31 is rejected under 35 U.S.C. 102(b) as being anticipated by Graemiger 1,400,813. Disclosed is a method of removing water from a compressor inlet air duct 1 comprising diverting water (by gravity and centrifugal force) flowing along an unnumbered wall in the general direction of air flow inside the duct to a drain (the vertical passage adjacent 26), and sucking water from the drain with a pressure less than air pressure in the duct adjacent to the drain.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 3745

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graemiger 1,400,813. Graemiger discloses a method of removing water from compressor inlet air substantially as claimed as set forth above, including a perforated sheet or screen 30 into air flow through unnumbered ducts with a drain 22 near the downstream end of the screen, but does not disclose shielding at least a portion of the floor of the duct with the perforated sheet or screen. That is, the perforated sheet/screen 30 of Graemiger is not located in the air inlet duct to the compressor adjacent to the drain (near 26).

The perforated sheet/screen 30 of Graemiger is located adjacent to drain 22 and provides the function of preventing too great a rate of evaporation of the water. One of ordinary skill in the art would have recognized the desirability of providing these benefits in the air inlet duct adjacent to the drain near 26, because drain 26 functions similar to drain 22. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art

Art Unit: 3745

to locate the perforated sheet/screen 30 of Graemiger in the air inlet duct 1, for the purpose of preventing too great a rate of evaporation of the water.

Allowable Subject Matter

Claims 4, 6, 8, 10-12, 14-20, 22-27, 29-30, 35, and 37-39 are allowed.

Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

Art Unit: 3745


will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (571) 272-4824. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C.V.
June 9, 2006


Christopher Verdier
Primary Examiner
Art Unit 3745